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Included are six papers from the Special Libraries Association Documentation Division's Contributed Papers Session at the National Conference in New York, May 28 - June 1, 1967, which were not included in the November, 1967 issue of Special Libraries. The papers are: (1) "The Bibliographical Control of Aerospace Industry Conference Literature Issued in the Form of Society Preprints," by Elizabeth H. Weeks; (2) "Putting Knowledge to Work on the Current Awareness Bulletin," by Donna Lemon and Edward P. Miller; (3) "Defining a Core Collection in a Technical Document Library," by Richard H. Stanwood; (4) "Selective Dissemination of Information, A Medical Literature Retrieval Service," by J. E. Barrett, R. K. Ausman, T. D. Graham, and J. R. O'Brien; (5) "The Role of Searching Services in an Acquisition Programs," by Antoinette L. Lueck, James M. Tierney, and Ann T. Dodson (also available separately from Clearinghouse for Federal Scientific & Technical Information, Springfield, Va. 22151, AD-652 737, MF \$.65, HC \$3.00), and (6) "Abstracting and Indexing, An Experimental Course," by Isaac D. Welt. (CC)

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**SPECIAL LIBRARIES ASSOCIATION**

The November 1967 issue of SPECIAL LIBRARIES included several papers from the Documentation Division's Contributed Papers Session at the National Conference in New York, May 28-June 1, 1967. In this publication, the Documentation Division, Special Libraries Association, is reprinting the papers not included in the November 1967 issue.

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THE BIBLIOGRAPHICAL CONTROL OF AEROSPACE  
INDUSTRY CONFERENCE LITERATURE ISSUED IN  
THE FORM OF SOCIETY PREPRINTS

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This is a session of the Documentation Division and you are from libraries serving all subject disciplines. While some examples that I am using in lieu of slides are being distributed, I should like to say a word about the title of this paper. The subject fields covered are those of the aerospace sciences, but the bibliographical control achieved could, I believe, be equally effective in any other subject field.

Introduction

The bibliographical control of what Collison in his book<sup>1</sup> calls "special materials" has been a problem in libraries for quite some time; in special libraries, because our collections attempt to be complete within our fields and encompass all forms, "special materials" have always been with us and are increasing in their forms.

One of these is the preprint. This has been defined by a physicist concerned with the communication problem as "any duplicated scientific communication whether intended for publication in that form or not."<sup>2</sup> In a recent issue of one of our own S.L.A. publications there is an article

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\* This work was done while the author was Senior Cataloger, Library, Avco Corporation, Missile System Division, Wilmington, Massachusetts.

underlining the problematical aspects of this form for libraries and proposing a cooperative solution.<sup>3</sup>

In this paper we are concerned with one important segment of this preprint output - those issued in advance, of or at a conference or meeting. Because most conferences are sponsored by a society or societies, these preprints are familiarly called "society preprints." They are usually, but not always, issued in unbound form. (Example 1)

They are acquired by special libraries as soon as available.<sup>4</sup> Because of their currency and relatively short lives in this form, it is imperative that they be given high priority as far as bibliographical control, availability, and announcement to readers are concerned. One library's solution to the problem of making these available for use may prove helpful to others. I shall describe the studies made; the descriptive cataloging given; the classification of, and subject and added entries assigned; and the housing, circulation control and announcement made.

### Preliminary Studies

Before any steps were taken, we deemed it necessary to answer two questions:

1. What other bibliographical control exists for this form of literature and is it adequate as to depth and timing?
2. How are these preprints usually cited in the literature and requested by readers?

Since the collection of preprints at hand and on order (mostly on standing order) covered subjects primarily within the broad spectrum of

astronautics, we examined in detail the two outstanding indexing and abstracting tools for this field - International Aerospace Abstracts (IAA) and NASA's Scientific and Technical Aerospace Reports (STAR).

We discovered that for the most part these two tools did abstract and index in depth (author, subject, sponsor, and society acronym and number) most of the collection in hand and within a reasonable time. "Reasonable time" in this case was interpreted as sooner than one senior cataloger and a junior cataloger could do it "in house."

In order to gain some perspective on how these preprints were cited and requested, we examined many bibliographies for preprint citations. Colleagues were also queried as to how preprints were requested at the reference and circulation desks. The answer from both these sources was that, in most cases, they were cited or requested by author's name, society name or acronym, and number; by society name or acronym and number; or by author's name and name of conference (for unnumbered preprints). The approximate if not definite date was also usually known if not inherent in the preprint number.

With these two major questions answered we decided that for most of the preprints the form of a single finding list giving the holdings of our library would be economically feasible and adequate. This would be incorporated into the author, title and added entry part of our card catalog.

#### Descriptive Cataloging and References

The form of single entry that we gave was that of society name as

corporate author, "Preprints" or "Papers" as title, and contents note. The contents note was given in paragraph form. Preprints that included a date in the number (such as those of the American Institute of Aeronautics and Astronautics) were listed by number, with author(s) surname(s) and initials and title. Multiple authors were given if not more than three. If more than three, the phrase "and others" was used after the first author. A date was added after the title for those not possessing the date as an inherent part of the preprint number. (Example 2)

As work progressed on this single entry approach, it was evident that a few added references would be helpful. These were made - references from another society name where there was joint sponsorship of the conference; from the name of the conference (if distinctive and if meeting the definition of a "named conference" according to A.L.A. rules<sup>5</sup> - careful establishment of the conference name ensured consistency if the published proceedings were added to the collection); from the host organization if it was felt that this would be useful.

Most of the references sent readers to a block of numbers within a long series. (Example 3) Authority cards and references indicated thereon were established as in conventional cataloging.

With almost any form of literature, some examples do not conform to a general pattern. Sets of conference preprints issued under society(ies) sponsorship that are not included in numbered series are common. These sets are also less likely to be indexed by the abstract tools, or if done, appear months after the conference. They are often the sets acquired by dint of considerable "digging" after a reader brings to our attention



citations in published literature. These usually merit all the bibliographical control that a library can economically afford to give them. We gave them the full cataloging one would use for published proceedings. A full contents note was given. The individual preprints were not analyzed. If the preprints were numbered, this sequence was followed in the contents note; otherwise, they were listed alphabetically by author. In most instances, main entry was under the name of the conference with added entries under the name(s) of the society(ies), subject(s) and title (if distinctive).

#### Classification

We classified the series of preprints according to the Library of Congress schedules. The general field of the society's interests was the basis for the notation assigned. If the schedules provided for a separate number for collected works this was used. Since the library also used author letters and numbers to provide for distinctive call numbers, these were taken from the corporate author.

#### Housing, Circulation Control, and Announcement

We stamped each individual preprint with two stamps - the "Library" stamp and the "For Reference Use Only" stamp. The call number was also pencilled in the upper right-hand corner of the cover.

Since quick copying facilities were available and it was economically feasible to reproduce the great majority as needed, the preprint collection was a "Reference Use Only" collection.



The preprints were housed either in pressboard binders or in Princeton files.

The acquisition bulletin was not compiled by the cataloging staff, and was a selected listing only. These preprints were not announced to readers. However, I believe that they should have been. Example 5 illustrates the announcement of a few recently acquired preprints in the series Orange Aid Preprints in Nuclear Astrophysics as announced in Library Acquisitions of the Smithsonian Institution Astrophysical Observatory Library.

1. Collison, R. L. The Treatment of Special Material in Libraries. London, Aslib, 1957.
2. Moravcsik, M. Physics Information Exchange - a Communication Experiment. Physics Today. v. 19, no. 6, June 1966, p. 62.
3. Ting, R. N. Preprint and the Physics Library - a Crisis and a Proposal. Sci. - Tech. News. v. 21, no. 1, Spring 1967, pp. 11-12.
4. Two selection tools of use in the acquisition of preprints:
  - a. TMIS: Technical Meetings Index. New Hartford, New York, Technical Meetings Information Service, \$25.00/year.
  - b. Scientific Meetings. New York, Special Libraries Association, \$10.00/year.
5. Anglo-American cataloging rules. . . Chicago, American Library Association, 1967, p. 134 footnote.

PUTTING KNOWLEDGE TO WORK  
ON THE CURRENT AWARENESS BULLETIN

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## PUTTING KNOWLEDGE TO WORK ON THE CURRENT AWARENESS BULLETIN

### ABSTRACT

The special librarian has at his disposal knowledge of people and literature which can be put to work in producing an effective current awareness bulletin. Consideration is given to layout and format, printing and other reproduction methods, content and writing style, editing and circulation practices. Selected, annotated bibliographies are offered as sources of information for initiating and continuing such a program.

### INTRODUCTION

An engineer came into his company's library and asked the librarian in charge: "Do you have the proceedings of the symposium held by the ASTM about a year or so ago? It dealt with mechanical behavior of anisotropic structural materials."

In handing the book to him, the librarian pointed out that the publication was listed in the last issue of the library's current awareness bulletin.

"Oh, was it?" said the engineer. "I don't read the bulletin very much. There's too much in it."

More frustrating might be the following hypothetical situation. The librarian only figures in the background.

Two scientists in a large research laboratory are looking for a report published by another department of their organization. They have searched diligently through the various files of materials not so neatly piled on the twin desks in their shared office, but they have not come up with the report.

"Do you suppose we could get it in the library?" says Scientist Number One.

"Possible. But they don't have everything there," replies his colleague.

What makes this frustrating is that among the piles of materials they have riffled through are several copies of a publication entitled "Library Notes". In one of those issues is buried a citation showing that the report they want was added to the library three months ago. In this formidable-looking publication the citation had been overlooked by both of them--lost in a sea of black-line print.

The librarians in these two fictional libraries are doing adequate work. But they are not putting knowledge to work. Readily available to them is information which would improve their communications with their respective library users. Their current awareness bulletins are not being read and the use of their libraries is impaired correspondingly.

Both instances demonstrate a need for greater readership, better readability for library current awareness bulletins. In both cases knowledge could have been put to work to improve library usage through better written communication.

## THE CURRENT AWARENESS BULLETIN OR LIBRARY NEWSLETTER

As basic assumptions for this paper, we shall take the position that communication with library users through a current awareness bulletin is necessary, and that an attractive, readable bulletin will stimulate library usage. Such assumptions are, in turn, based on our conviction that it is important to have some current communication with library users. Making these assumptions, we shall not argue value and importance, but restrict our remarks to the bulletin itself.

First consideration should be given to the purpose of the bulletin. And there are several which can be fulfilled. The bulletin can editorialize; it can announce new acquisitions; it can inform users of library materials available; and it can introduce concepts, services, and personnel. A library newsletter or current awareness bulletin can do one or all of these things. In any event, whatever purpose is decided for the bulletin should be directly in line with the purpose of the library itself, and further that purpose. Some examples of library bulletins with different purposes are listed in the Bibliography, Section A1.

The chief purpose of any special library is to provide special information and special service to the staff of the organization of which it is a part. Of the purposes suggested above, the ones which most closely align with this over-all purpose are announcing new acquisitions and informing what materials are available in retrospect. The rest of the suggested purposes can be included, but should be subordinate to this prime purpose. For the rest of the paper we shall restrict ourselves principally to this, mentioning other objectives only as they serve to illustrate means for increasing readership and use of library facilities.

## CONTENTS

Contents of the bulletin are defined in line with the purpose. Generally speaking, the contents will be restricted to citations of books and materials most recently received by the library and added to its collection. How this is done will depend on several factors: staff time available, amount of material received in the period of publication, and the audience toward which the bulletin is directed, among others.

Staff time for producing the bulletin will be dependent in some measure on method of production. It will also depend on the contents. Time to write brief annotations of books received should not be restricting. But if the bulletin is to include annotations or abstracts of journal articles and reports, the time factor can become a problem. Before using the limitation of staff time available as a reason to reject publication of the bulletin, however, the librarian should consider the value of the bulletin to the user. Book annotations and brief abstracts or annotations of articles and reports will greatly increase the readership and value of the bulletin to the parent organization. Writing such abstracts and annotations will put the knowledge of the library staff to work in a valuable enterprise. (See Bibliography, B12)

The period of publication will depend largely on the amount of material received by the library. The determining factor in this is the amount of current material to be included in the bulletin itself. The value of the publication will be greatest if it includes notation on everything received since its last issue. This must be considered in relation to readership: the greater the bulk of the bulletin, the less will be its readership. The same maxim applies here that is voiced in information retrieval circles: "Don't deluge the user with too much information." The library with a high

rate of acquisition will want to publish more often; the library with a low rate of acquisition will be able to publish at greater intervals. The user readership will vary inversely to the amount of material included in a particular issue. Of course, the format and reproduction method will have some bearing on this as well. (For examples, see Bibliography, Section A, 2 and 3)

The audience at which the bulletin is aimed will have a considerable influence on its contents. Obviously, the wider the audience interests, the greater will be the range of subject matter in the bulletin. If this becomes too great for a single publication, perhaps other editions will be needed. Or it is possible that alternating publication could be made: one week for a particular group, the next for another group, and so on. The solution to problems of this facet will be found as the librarian puts to work knowledge of the library users and other personnel in the parent organization.

In the contents of the current awareness bulletin the use of pictures and diagrams can have a great value. The use of such, however, will depend on the method of reproduction and the availability of cogent illustrations. Perhaps the best example of how this can be done is to be found in the Official Gazette of the U. S. Patent Office, where illustrations are an absolute necessity. (A library example is Bibliography item A.1.h) In this area of concern, the librarian can put the knowledge of an art and reproduction department to work.

Within many companies there is a multitude of "in house" publications. These may be published by different departments or by organizations attached to the company such as unions or staff associations, professional and otherwise. The knowledge that the librarian gains from an intimate relationship with these various publications should be put to work to prevent



overlapping of the information published in the library's current awareness bulletin. If somebody else is doing it, the library doesn't have to.

Perhaps one of the most important aspects of content consideration is the arrangement of the material. Both from the standpoint of readability and attractiveness, arrangement of material rates high. Nobody will want to read regularly a bulletin that is hodge-podge in the way items are given. Here the librarian can put to work the knowledge gained in selection procedures, particularly the selection criteria used for reference materials. This is a stock in trade for any librarian; it is part of the librarian's basic training, sharpened by experience in the profession. No librarian should be guilty of arranging material in a library publication in a manner that would be unacceptable in a reference work.

Another piece of knowledge that can be put to work here is experience with the users themselves. How do the users look for material in the library? By subject? By author? By title? Most people are used to finding things alphabetically. (See Bibliography item B.2) But it might be possible that an arrangement by classification number, if such is used in the library, is an easier method. Knowledge of how the computer can most efficiently arrange material could also enter into this question, and in this regard consultation with the company's data processing people will produce knowledge to be put to work.

### FORMAT

Format is probably the most important element in generating readership and readability to a current awareness bulletin. The attractively formatted bulletin will always be read. Format should lead the reader into the publication even as style in a good novel builds suspense making the reader

unable to cut short his reading until he finds "who done it!" Format does something else in the current awareness bulletin: it saves reader time. The busy executive or engineer cannot take the time to plow through material unless he is drawn to do so by the material's attractiveness. And further, the purpose of the current awareness bulletin is to save time for library users. There are many sources of knowledge at the librarian's disposal which can be put to work on this matter of format.

Most readily accessible knowledge comes from the examples provided by other publications probably already available in the library. The Wall Street Journal includes an interesting current awareness feature on its front page in the columns entitled "The News in Brief." Reader's Digest has built a great circulation on the basis of time-saving condensations of articles and books, putting them into an easily held, quick-reading format. (Some other periodicals which will offer specific help are listed in Bibliography Section C)

The use of indentions and varying type can improve format, helping the reader to scan material quickly, his eye being attracted immediately to the items in which he is most interested. Consider the following examples:

HINES, Theodore H. and Harris, Jessica L. Computer Filing of Index, Bibliographic and Catalog Entries. Newark, N.J.: Bro-Dart Foundation 1966. 126 p. \$5.95.

HINES, Theodore H. and Harris, Jessica L. Computer Filing of Index, Bibliographic and Catalog Entries. Newark, N. J.: Bro-Dart Foundation, 1966. 126 p. \$5.95.

Hines, Theodore H. and Harris, Jessica L. COMPUTER FILING OF INDEX, BIBLIOGRAPHIC AND CATALOG ENTRIES. Newark, N. J.: Bro-Dart Foundation, 1966. 126 p. \$5.95.

HINES, Theodore H. and Harris, Jessica L. Computer Filing of Index, Bibliographic and Catalog Entries. Newark, N.J.: Bro-Dart Foundation, 1966. 126 p. \$5.95.

Hines, Theodore H. and Harris, Jessica L. COMPUTER FILING OF INDEX, BIBLIOGRAPHIC AND CATALOG ENTRIES. Newark, N. J.: Bro-Dart Foundation, 1966. 126 p. \$5.95.

The example is taken from the February 1967 issue of Special Libraries, page 121. No attempt has been made to change the entry form, nor could the typewriter reproduce the type face used in the magazine. However, some things become clear from the example. First the typewriter does have some flexibility in format possibilities. And despite the changes in format the space used by the particular entry is the same, three lines. For an author approach, the format of the second example is more appealing. For a title approach, example No. 3 is more appealing. Of all the examples, the indentation in the second and third will appeal more than the other three.

The cover and/or title page and masthead will also have a bearing on the readership. Knowledge is readily available to any library by asking for help from the company's art and reproduction department if there is one. The advertising department can help as well. With neither of these resources available, a good printer in the community will help. But there are many books and articles which will provide format knowledge which can be put to work for a better current awareness bulletin. (Bibliography, Section B)

#### MEANS OF REPRODUCTION

How the bulletin is to be produced will depend on funds available, equipment available, number of copies needed, and to some extent the content (Bibliography Item B.4). The Copying Methods Manual by Hawken, published by the American Library Association will serve as a prime source of knowledge in this area. But there are many other publications providing a comparison of methods. And certainly the art and reproduction department

of the librarian's company will provide immediate, practical knowledge that can be put to work in making this important decision. It is well to remember that the method of reproduction is another important factor in generating readership and improving readability of the current awareness bulletin.

#### DISTRIBUTION

Little help can be found from outside sources to provide knowledge for the librarian to put to work in deciding the distribution of the current awareness bulletin. The best opportunity is for the librarian to become completely knowledgeable of company personnel and their needs as well as the means available for distributing the bulletin to the company personnel.

Interest profiles can be of much help in deciding circulation. And the bulletin itself can include an opportunity for "feed back" by a simple form or questionnaire to be returned to the library with the desired information. This form could also be used as an order form for items listed in the bulletin, the returns of the form being used as a gauge of bulletin readership and use.

#### STYLE

Style manuals abound. However, it is beyond the scope of this paper to deal in detail with this aspect of the current awareness bulletin. Needless to say, style is important and a few passing remarks can be justified.

A stilted, formal style will have less readership than an informal "journalistic" style. The language used should not be "technical." Librarians have their own jargon as do scientists, theologians, and other professionals. Sometimes it is hard for us to realize that some of the people to whom we speak call "periodicals" magazines, and "indexes" lists, and so forth. If

possible, the knowledge of a technical writing staff can be put to work on the style and language of the bulletin. (See Bibliography Item B.13)

### CONCLUSION

The special librarian has a great deal of knowledge available to him to make his current awareness bulletin more readable, useful and valuable to his company. Putting this knowledge to work effectively will greatly increase the use of the library facilities he oversees.

As information specialists, providing special service to an organization, special librarians need not forget their normal library talents and techniques. Providing knowledge that can be put to work in a research project, a business enterprise, or a particular building program, the special librarian is trained in the use of literary materials of all kinds. There is, therefore, the opportunity for him to put his special knowledge to work in particular aspects of his own job.

The publication of an effective current awareness bulletin is an important aspect of library service. The knowledge the librarian puts to work for others in his parent company can be put to work to make this publication an effective tool within the company structure.

Perhaps the best sources of usable knowledge on the subject are the librarian's ingenuity and the individual library bulletins he can acquire. A further study could be conducted concerning the attitudes of librarians toward users, and this could provide knowledge of use in analyzing these bulletins.

The following selected, annotated bibliography is offered to help in providing some knowledge of where to look, what to look for, and how to do it. In preparing it we found a paucity of information on the subject. Undaunted, we publish here what we found.



## A SELECTED ANNOTATED BIBLIOGRAPHY

### A. Examples - Good and Bad

#### 1. Current awareness bulletins

Some library bulletins, readily available to special librarians, provide examples of various techniques and purposes:

- a. **BUSINESS AND TECHNOLOGY SOURCES.** Monthly. Cleveland Public Library, Business and Technology Department.

Including a brief instructional text focussing attention on some particular service or aspect of the business world, this bulletin lists publications of interest to special fields under specific subject headings with entries arranged alphabetically by title. Each issue is given totally to the special field considered. This is a good example of the use of white space.

- b. **BUSINESS LITERATURE.** Monthly. The Public Library of Newark, New Jersey, The Business Library.

Listing recent acquisitions as well as materials and books in retrospect, this bulletin is devoted entirely in each issue to a particular aspect of business, with subheadings by subject and entries alphabetic by author. A good example of much information being given clearly in small space.

- c. **BUSINESS TECHNOLOGY ROOM BULLETIN.** Monthly. The Houston Public Library. (Free)

Each issue of this bulletin provides comment on a particular field of interest in science and technology or business and economics with a brief listing by title of related books. An example of informational comment intended to stimulate increased usage.

- d. **BUSINESSWISE.** Semiannual. Denver Public Library, Business Division. (Free)

"Issued twice a year in March and September . . . (this) is a selected list of new books, pamphlets, periodicals and documents of special interest to those in the fields of business, commerce, industry and labor." (Quoted from the publication.) Including some writing about a subject area, the entries in the bibliographic parts are annotated.

- e. **CUE TO BUSINESS.** Biweekly. Indianapolis Public Library, Business Library.

A single sheet, mimeographed newsletter, this publication lists and annotates new books received in the library in an alphabetical arrangement by author, and includes a brief focus on a particular subject or book in an editorial.

- f. **CURRENT LITERATURE IN TRAFFIC AND TRANSPORTATION.** Monthly. Northwestern University, The Transportation Center Library.

This bulletin includes a large amount of material related to traffic and transportation, listed under subjects by author. An example of use of indentation, two column arrangement and large number of entries as well as the use of reduction of type in photo-offset printing process.

- g. **FOR YOUR INFORMATION.** Quarterly. Dallas Public Library, Science and Industry Department. (Free)

Comments in this publication direct attention to some particular service or collection of the library department or an aspect of library service in general. Annotated lists of new books in subject classifications are arranged alphabetically by author.

- h. **LIBRARY BULLETIN.** Monthly. Lone Star Gas Company, Dallas, Texas, Research and Development Library.

Here is an example of a current awareness bulletin making use of diagrams and tables and including abstracts of material included. Articles listed in each issue are arranged under subject headings alphabetically by title.

- i. **SCI-TECH/BUS-EC INFO.** Monthly. Tulsa City-County Library System, Business and Technology Department. (Free)

Including editorial comment, instructional pieces and announcement of activities, this bulletin has a selected list of recently acquired books with brief annotations. Entries are arranged by classification number. Another example of the use of white space for readership, and of indentation.

## 2. GOVERNMENT SERVICES

Government publications can provide some examples of current awareness information published on wide ranges of subject matter. There are many more than those listed here, but these offer examples which can help in the publication of an attractive and usable current awareness bulletin.

- a. **BUSINESS SERVICE CHECKLIST.** Weekly. U. S. Department of Commerce.

Concerning statistical and bibliographic material relative to the business community on a national scale, this publication is a good example of a quick reference-by-title bulletin, easily scanned by the hurried reader.

- b. **SELECTED UNITED STATES GOVERNMENT PUBLICATIONS.** Biweekly. Superintendent of Documents, Government Printing Office.

The feature of this publication that could well be used by the special librarian is the order form which can be torn off and returned with the request for a particular publication or publications.



- c. U. S. GOVERNMENT MONTHLY CATALOG. Monthly. Superintendent of Documents, Government Printing Office.

Here is an example that the special librarian would do well to steer clear of. The mountainous information included makes this a continuing reference tool rather than a current awareness bulletin. However, it does have current awareness value for particular agency and departmental publications of the government. It provides an example of what can happen with a too-long publication period and a very large acquisition volume.

### 3. COMMERCIAL EXAMPLES

Among the many commercial indexing and abstracting services, the following will serve as examples of large volume acquisition lowering current awareness value and capability. Admittedly, these are not published for current awareness, but they show what a current awareness bulletin cannot do.

- a. APPLIED SCIENCE AND TECHNOLOGY INDEX. Monthly; cumulated quarterly and annually. H. W. Wilson Company.

The subject arrangement helps this popular index to have some current awareness value in that it can be scanned rather quickly in a particular subject category. The varying use of type-face is another assistance in this purpose, but the mountain of information makes it more a reference than a current awareness tool.

- b. ENGINEERING INDEX. Monthly. Engineering Index, Inc.

Although entries include abstracts, the current awareness value of this is lowered by the difficulty in scanning pages for authors and titles in a brief time.

### B. PRODUCTION HELPS

The following items are sources of information on format, writing, graphics, editing, and other elements necessary to consider in publishing a current awareness bulletin that will be readable, attractive and usable.

1. AN ANNOTATED BIBLIOGRAPHY ON TECHNICAL WRITING, EDITING, GRAPHICS, AND PUBLISHING 1950-1965. Published jointly by the Society of Technical Writers and Publishers, Inc. and the Carnegie Library of Pittsburgh, 1966.

Covering a broad area of interest, this book lists 2,000 books and articles concerned with every aspect of technical writing, editing, graphics and publishing alphabetically by author. It includes much that will be of value to the librarian desiring knowledge about publishing a current awareness bulletin.

2. BLAIR, KEITH G. "Engineering library bulletins - the human factors consideration." Special Libraries 52:175-182, April 1961.

A study on the human factors aspect of 123 engineering library bulletins indicates that these publications are not planned or tailored for the use of the reader.

3. COSTELLO, Michael A. and Henry Boos. "Preparation of an information bulletin." Special Libraries 50:454-55, November 1959.

This discussion of methods used in publishing a library information bulletin at Picatinny Arsenal concludes that preparing a bulletin can be simplified and made more efficient if good management and industrial engineering concepts are applied.

4. HAWKEN, WILLIAM R. Copying Methods Manual. Chicago, American Library Association, 1966. (Library Technology Program Publication No. 11.)

Current need for a manual of copying methods dealing with the processes, methods, techniques, and types of equipment which can be used for reproducing documents is fulfilled by this comprehensive handbook.

5. HOCKEN, SANDRA. "Disseminating current information," Special Libraries 53:93-95, February 1962.

Discussing the use of a current awareness bulletin at the IBM Advanced Systems Development Research Library at San Jose, California, this article gives attention to cooperative compilation methods, provision of copies of items listed in the bulletin and circulation of materials to company staff members.

6. HOLMAN, WILLIAM R. Library Publications. San Francisco, Roger Beacham, 1965.

This beautiful book contains a discussion of the principles of good printing and is supplemented throughout with outstanding examples of effective library publications.

7. JACKSON, LUCILLE. "Some observations on fifty technical library bulletins." Special Libraries 44:366-9, November 1953.

This study of fifty library bulletins, primarily from companies with strong representation in the pharmaceutical, petroleum and food industries, surveys the kinds of publications covered by the bulletins, the styles of presentation of material, systems of preparing, and methods used for their duplication.

8. KARCH, R. RANDOLPH, Graphic Arts Procedures. Chicago, American Technical Society, 1957.

An introductory text to all aspects of the graphic arts, this book also contains numerous references for further reading.

9. MELCHER, DANIEL and LARRICK, NANCY. Printing and Promotion Handbook, 3d Ed., New York, McGraw-Hill, 1966.

The authors have given a thorough treatment to all aspects of their subject. Comparison of copying methods is given on lining papers and an extensive bibliography is presented in Appendix 2, p. 417-29, that will have great value in proving knowledge to the special librarian in publishing a current awareness bulletin.

10. NORINS, HANLEY, The Compleat Copywriter. New York, McGraw-Hill, 1966.

While specifically concerned with advertising communication, Mr. Norins' pointers on writing good copy should be helpful to librarians in promoting library services through published bulletins.

11. THE NEWSLETTER ON NEWSLETTERS, 20 North Wacker Drive, Chicago, Illinois, 60606. Monthly, \$18.00 per year.

This is a monthly bulletin covering many aspects of newsletter publishing as well as listing new and existing newsletters, their editorial requirements, markets and readers. Intended to help marketers find publicity avenues, the publication has value to the current awareness publisher-librarian.

12. "Routing Technical Information" Machine Design 25:15, p. 147-49, June 20, 1963.

Based on a questionnaire submitted to 1,000 engineers and engineering managers, this article surveys attitudes toward selective dissemination of information. Engineers' suggestions for improving library services, including the use of newsletters, are given.

13. SPECIAL LIBRARIES, Vol. 49, No. 1, January, 1958.

Four feature articles in this issue of Special Libraries are devoted to the relationship between special librarians and technical writers and how they can assist and complement each other.

#### C. NON-LIBRARY PERIODICAL HELPS

The periodicals listed here are some which are not concerned with library problems, but which contain knowledge related to production of a good bulletin and hence knowledge which can be put to work by special librarians in producing an effective current awareness bulletin.

1. ADVERTISING AGE. Weekly. Advertising Publications, Inc., Chicago & New York.

Regular perusal of this publication will generate ideas of new products and techniques of media communications.

2. BUSINESS ADVERTISING. Monthly. Decker Communications, Inc., New York.

*This offers an opportunity to find out what advertising people are saying and doing to improve their trade, and at the same time gain ideas for improving library communication.*

3. CA MAGAZINE. Bimonthly. Coyne & Blanchard, Inc., Palo Alto, California.

*This beautiful publication will probably provide more material for coveting, but can give ideas for better format, type faces, illustrations and other aspects of communication arts to improve the more elaborate publishing efforts.*

4. PRINTER'S INK. Second and Fourth Fridays. Decker Communications, Inc., New York.

*This popular advertising magazine includes many examples and helps in identifying the audience for a publication and taking accurate aim to reach that audience.*

5. REPORTER OF DIRECT MAIL ADVERTISING. Monthly. The Reporter of Direct Mail Advertising, Inc., Garden City, L.I., New York.

*If the current awareness bulletin of a special library is considered as a direct mail promotion piece, this magazine can be of help in its production.*

6. TECHNICAL COMMUNICATIONS. Quarterly. Society of Technical Writers and Publishers, Washington, D. C.

*Articles in this publication deal with many aspects of writing and publishing which apply directly to the production of a newsletter or bulletin and will provide good advice and knowledge for librarians in publishing a current awareness bulletin.*

#### D. MISCELLANEOUS SOURCES

*The following items are companies and organizations from which specific information can be obtained by writing and asking.*

1. Butler Typo-design Research Center, Mendota, Illinois, has prepared a series of publications among which are the following:

KEN BUTLER'S LAYOUT SCRAPBOOK: 101 USABLE PUBLICATION LAYOUTS, 1954  
101 MORE USABLE PUBLICATION LAYOUTS, 1958.

PRACTICAL HANDBOOK ON DOUBLE SPREADS IN PUBLICATION LAYOUT, 1956

PRACTICAL HANDBOOK ON EFFECTIVE ILLUSTRATION IN PUBLICATION LAYOUT, 1952

PRACTICAL HANDBOOK ON HEADLINE DESIGN IN PUBLICATION LAYOUT, 1954



2. S. D. Warren Company, Boston, has produced several publications on printing and typography among which are the following:

PRINTING, ITS FORMS AND DESIGNATIONS  
PRINTING, PAPERS AND THEIR USE  
PRINTING, THE PROCESSES OF REPRODUCTION  
PRINTING, TYPES AND TYPOGRAPHY

3. Several paper companies have published materials on graphics, printing processes and paper uses. Among them are:

INTERNATIONAL PAPER COMPANY, NEW YORK  
KIMBERLY-CLARK CORPORATION, WISCONSIN  
CROWN ZELLERBACH CORPORATION, SAN FRANCISCO

4. Other books giving some information on layout, typography, style, etc.:

DE LOPATECKI, EUGENE. Advertising Layout and Typography, New York, Ronald Press, 1952.

How to Prepare Artwork for Letterpress, for Lithography, Kimberly-Clark Corp., Neenah, Wisconsin.

JACKSON, HARTLEY E. Printing: A Practical Introduction to the Graphic Arts, New York, McGraw-Hill, 1957.

Printing Layout and Design, Delmar Publishing Company, Albany, New York.

TURNBULL, ARTHUR T. The Graphics of Communication: Typography, Layout and Design, New York, Holt, Rinehart, 1964.

TURNER, RUFUS P. Technical Writer's and Editor's Stylebook, Indianapolis, Howard W. Sams, 1964.

5. Proceedings of writers' conferences and other symposia, institutes and meetings can also provide much valuable information.

**Defining a Core Collection in a Technical Document Library**

by

**Richard H. Stanwood**

**31 May 1967**

**International Business Machines Corporation  
Federal Systems Division  
Federal Systems Center  
Gaithersburg, Maryland**

## Abstract

The purpose of this paper is to discuss methods for evaluating a working collection of state-of-the-art technical documents with special reference to collections maintained by industrial organizations.

As the document collection increases in size the question of weeding arises. Documents valuable to the organization should be kept; those of no further value should be discarded. For many librarians this dilemma is aggravated by the lack of dependable criteria for making a choice.

The rationale for document selection and weeding that is presented in this paper is influenced by an operating Selective Dissemination of Information system.

Once a program of evaluation is introduced and followed the librarian can maintain with some degree of certainty a strong core collection of technical documents.



# Defining a Core Collection in a Technical Document Library

by

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Writing in the Summer 1966 Outlook,<sup>1</sup> Dr. Jesse H. Shera, Dean of the school of Library Science, Western Reserve University, makes the following observation:

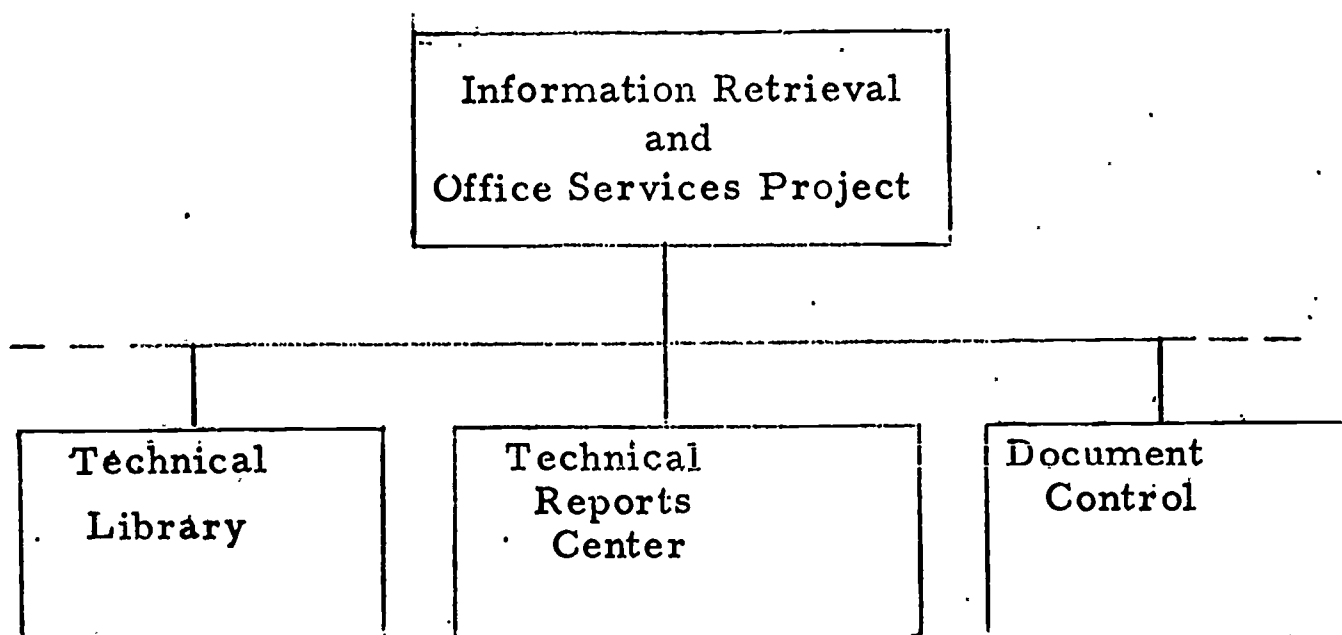
"We have all heard much of late of the knowledge explosion, but even more serious for the librarian is the paper explosion, by comparison with which the explosion of knowledge is no more than a modest crackle. These pieces of paper are the cells of the library organism, but because there is available no sure means for distinguishing the quick from the dead, the librarian is compelled to work with a steadily increasing inventory of materials..."

Although Dr. Shera spoke of books, his statement could also apply to collections of technical reports. However, it is my contention that methods can be introduced through which the technical librarian can distinguish with some degree of accuracy "the quick from the dead." Using them, the expansion of the collection can be controlled and at the same time responsiveness to user needs can be maintained.

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<sup>1</sup>. References are listed on the last page.

The methods suggested in this discussion are based on experiences gained in the Technical Reports Center, Electronics Systems Center, Federal Systems Division, IBM Corporation, Owego, New York. Although the Technical Reports Center (TRC) is allied with the Technical Library and the Document Control Department, it is a separate administrative unit. An organization chart follows:



It has been shown by Randall<sup>2</sup> that most technical reports have a limited period of use. From this it is evident that the report collection in an industrial library cannot remain static and be responsive to changing user needs. The collection must be thought of as a dynamic entity which must be responsive to users on the one hand and maintained with good management practices on the other.

Good management as applied to report collections is defined in this discussion as being responsive to users, economical, and efficient.

Viewing the collection as a dynamic entity, the core cannot be considered as static, but rather as a changing body of reports.

Although the reports generated at Owego must be retained indefinitely, the bulk of the remainder of the collection is subject to continuous weeding. "Core" as used in this discussion is defined as the working, used, and usable collection of reports at any point in time. Thus, by the very nature of this approach to collection management the core collection this year is not the same as that last year; it is in fact the minimum collection that can satisfy the greatest number of user requests.

The Owego Technical Reports Center operates a computerized information retrieval program called the MERGE System. MERGE combines KWIC (Key Word in Context) indexing and SDI (Selective Dissemination of Information). It uses the vocabulary contained in the Thesaurus of ASTIA Descriptors<sup>3</sup> and a locally developed List of Open-Ended Terms which is compatible with and enlarges upon the descriptors in the Thesaurus. Through this system all technical reports accessioned by TRC are indexed, announced, searched, and retrieved.

Document acquisition is aided by reference to a summary list of all descriptors chosen by SDI users. The information is displayed

so that each user is shown in a group opposite the descriptor that is common to the group. While this approach gives guidance regarding the type of material that should be acquired, it does not guarantee that what is received will command the degree of interest indicated. The collection is comprised of reports acquired through automatic distribution, those selected and ordered by TRC staff members, and those requested by laboratory personnel and ordered by TRC. Reports requested by users are handled on an accelerated basis although they go through the same processing cycle as all other reports (evaluation for applicability to Owego interests, check for duplication, cataloging, announcement).

The following types of reports are acquired by TRC. The percentage of each type input to the collection is also indicated.

1. Unclassified reports selected by TRC, users, and automatically received from non-IBM sources; 67%
2. Owego unclassified reports; 10%
3. Other IBM unclassified reports; 8%. Received automatically.
4. Abstracts of journal articles; 7%. Most of these are selected by the Technical Library and submitted to TRC for announcement.
5. Classified reports: Owego produced; 2%, Non-IBM produced; 6%.

While classified reports are cataloged and announced through the MERGE System the documents themselves are controlled from receipt to destruction by the Document Control Department.

Report announcement is accomplished through a weekly KWIC indexed bulletin and SDI notifications.

The concern of the present discussion is the application of SDI user responses to report collection management.

At the present time 216 user interest profiles are matched each week with approximately 200 documents. About 2000 user notifications result from the matching process. A recent study showed that up to five persons read each SDI notice; this is attributed to the fact that many profiles represent entire departments.

The information sent to each SDI user includes the document title, abstract, personal authors, publication date, corporate author, report and contract numbers, and cataloging descriptors. From this the user is asked to express his interest in the document by making one of the following four choices; (1) Of Interest. Document Requested; (2) Of Interest. Document Not Wanted, (3) Of Interest. Have Copy, (4) Of No Interest. It may be seen that within the available choices the SDI user can express interest in a document without ordering a copy of it.

About 67% of the notification cards are returned to TRC; of these an average of 77% are in "of interest" categories (choices 1, 2 and 3 in the preceding paragraph).<sup>4</sup>

Several assumptions are made concerning the SDI responses;

- (1) the user interest profiles on which the notifications are based are

reasonably representative of user interest, (2) the descriptors adequately describe the documents (3) the responses reflect the true opinions of the respondents, (4) there is enough information on which to make an intelligent evaluation of a document. Since SDI responses are analyzed for several operational purposes, including the question of document weeding, which is discussed in this paper, TRC personnel engage in a continuous program of user education to insure that confidence can be placed in the responses.

Although a high initial plateau of relevance is insured by the acquisitions policy not all documents are found useful by laboratory personnel. Nor do those which are found useful remain so for an unlimited period of time. In addition, good records management practice aims at the transfer of semi-active and inactive records to storage and the discard of unnecessary records. In view of these considerations the TRC staff has attempted to find ways to minimize the number of reports in the work area and in storage. Microfilmed records have offered only partial relief to the space problem and none to the problem of quantity.

Storage space is available at TRC for 17,000 to 18,000 full-sized reports; the approximate number of documents acquired in a period of two years. Documents that have been on the shelves two years are evaluated for further retention at that time. Those retained are sent to a storage location.



A policy of document weeding has been in effect at TRC for a number of years. Originally it was based on a TRC librarian's judgement of what would or wouldn't be of future interest to laboratory personnel. Later, it was recognized that the librarian's judgement could be enhanced by adding the measure of document value afforded by circulation records. But even with the addition of this judgmental criterion it was found that uncertainty as to future requirements could still result in the tendency to keep more material than was necessary.

The librarian's judgement was and still is tempered by several considerations relating more to the origin than to the intellectual content of the document. A summary of some of these considerations is shown in Table I.

Owego generated . . . .	Keep indefinitely
Other IBM . . . . .	Discard if inactive
DDC . . . . .	{ Discard if inactive Discard if loss of halftone or color plates would not impair subject content
NASA. . . . .	Discard if no activity (only one copy is sent).
Non-IBM Non-DDC Non-NASA	} . . . . . Discard if inactive and/or available from source, if required.

Table I. Some Criteria for Weeding

Recently, an investigation was made to determine if there was any value to the librarian in applying SDI responses as well as circulation records to his evaluation of documents for retention.

This approach was suggested from the observation that SDI users became in effect "document review committees" after their response cards were summarized document-by-document. From this it was hypothesized that the librarian would be better able to make informed decisions on questions of document disposition if, to his own knowledge of future laboratory technical interests, he could add the advice of users as well as the record of document circulation. Interestingly enough, summarized SDI responses can point to the desirability of retaining documents which may not have been circulated prior to evaluation.

The hypothesis was applied to an actual group of 1483 reports from types 1 and 3 on page 4. Of them, 523 (35%) were marked for discard. Had the SDI responses not been used 20% to 25% would have been discarded. It was concluded that the hypothesis was correct and that by adhering to it a librarian could weed a document collection effectively and expeditiously. It was also concluded that the addition of SDI responses as a factor in evaluation gave the librarian a practical and powerful judgmental tool.

It should be mentioned that under current procedures a document, after it has been selected for further retention, is sent to a storage location from which it can be recalled within 24 hours. Then, after three more years it is checked again for evidence of interest and its applicability to laboratory technical problems. Generally, few reports other than those generated at Owego are retained beyond this point in time.

The difference between the method of weeding discussed in this paper and that proposed, for example, by Trueswell<sup>5</sup> for books is that his is based entirely on last date of circulation. The method under discussion improves the librarian's degree of certainty in deciding which documents to retain and which to discard by permitting him to enlarge the foundation of his decision beyond his own knowledge of future laboratory technical interests to include the advice of users as well as document circulation records.

## REFERENCES

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3. Thesaurus of ASTIA Descriptors, 2nd Edition. Armed Services Technical Information Agency, Arlington, Virginia, December 1962.  
DDC Supplement to the Thesaurus of ASTIA Descriptors. Defense Documentation Center, Defense Supply Agency, April 1964.
4. Stanwood, R. H., Some observations on user response to an SDI system. Proceedings of the American Documentation Institute 1966 Annual Meeting, October 3-7, 1966, Santa Monica, California, Adrianne Press, 1966, p. 235-244.
5. Trueswell, R. W., A quantitative measure of user circulation requirements and its possible effect on stack thinning and multiple copy determination. American Documentation, January 1965, Vol. 16, no. 1, p. 20-25.

SELECTIVE DISSEMINATION OF INFORMATION  
A MEDICAL LITERATURE RETRIEVAL SERVICE

J.E. Barrett, R.K. Ausman, T.D. Graham, J.R. O'Brian

Selective Dissemination of Information or SDI is a current awareness system which has been employed at Roswell Park Memorial Institute to serve the needs of the clinician researcher on a daily basis. The service was deemed necessary due to the prolific amount of literature published on a daily, weekly, monthly, and annual basis. This timesaving device matches the interest of the subscriber with the content of published literature through the use of an electronic data processing machine. Thus, individuals in the medical community, without any library research, can be made aware of current innovations in clinical, surgical and research disciplines.

The SDI system is composed of two major elements, the literature and the subscriber. The literature phase is comprised of medical and scientific journals published on a daily, weekly, monthly and quarterly basis. A conclusive, 225 word summary, header review or introduction is selected from each paper, and this abstract is copied directly in machine-readable form on a Magnetic Tape Selectric Typewriter (MT/ST) for processing by the computer and storage. Approximately 65 journals are abstracted each month at the present time.

The subscriber participates by preparing one or more profiles (Fig. 1) of descriptor words (any words in his

vocabulary directly related to or connected with his particular specialty or field of interest). To capture the singular or plural usage and different parts of speech, the word root may be employed instead of all of the word forms. (For example, the letters surg designated as a root term within the profile will match with and print out an article containing the words surgery, surgeon, surgeons, or surgical.) Phrases may also be used as descriptors; however, proper terms, such as authors' names, journal titles, drug names, names of various virus strains and special surgical techniques, form the bulk of most profiles. Further meaning is given to these root terms, exact terms and phrases by assigning a weight factor (from -9 to +9) to each in accordance with its contextual importance. Minus weights are used to screen away undesirable information. The entire profile is then given a selectivity level (or hit level) (from -9 to +9). This level determines the number of descriptor "matches" that must be made before an abstract notice is printed. For the purpose of uniformity, all profiles in the SDI system at Roswell were initially assigned a hit level of +4. Subsequently, an experiment was conducted testing the efficiency of this level for the selection of pertinent abstracts. One profile was given various hit levels ranging from 1 to 4 to determine the number of "noise" or no interest abstracts generated by each of the four levels. As the hit levels were lowered, the selectivity was correspondingly decreased;



therefore, abstracts generated at the +1 level were virtually meaningless. Consequently, the +4 level was found to be the most effective. Assigning a +4 hit level is primarily a management tool and does not limit the subscriber in any way. A matching procedure follows in which all profiles are compared individually, word by word, with the abstracts. When a sufficient relationship exists, thereby satisfying the selectivity level, the abstract is printed out on a compound port-a-punch card. At the same time, statistics indicating the effectiveness of each journal abstracted are generated for control purposes.

One feature which reduces computer time is auto-indexing. This technique utilizes an exclusion word list (so that insignificant terms are not indexed) and a dictionary word list (which indexes only those terms appearing in the subscriber profiles). Thus, in the matching procedure, the computer scans the keywords rather than the complete text of each abstract.

The printed cards (Fig. 2) are divided into two parts, one containing the 15 line abstract (in addition to 5 lines which contain the source, author, and title) and the other, a response card by which the subscriber evaluates the summary. This half of the card contains pre-scored port-a-punch responses from which the subscriber makes his choice. He may indicate that: (1) he wishes a reprint of the entire article; (2) the abstract has provided him with sufficient information; (3) he has seen the article

previously; (4) the abstract is of little interest to him; or (5) the abstract is of no value. Space is also available for comments or word changes in his profile, eliminating the need for constant personal contact with the SDI Center. The second portion is then returned to the Center where the responses are processed for statistics determining the effectiveness of the system and the individual profiles. A continuous tabulation is made for each word in a profile which acted as a matching word for generating abstracts. Thus, it is possible to determine those words which may be of little or no interest. At this point, ineffective words can be dealt with by reducing the weight level, assigning a negative value, or removing such words from the profile. Based on subscriber responses, a report is generated monthly indicating the effectiveness of each profile and the individual words contained in the profile.

In actual operation, SDI is a current awareness system; however, since all summaries abstracted are stored on magnetic tape, retrospective searches of information can be conducted at any time, if desired. This allows the subscriber to retrieve information on a subject unrelated to the interests expressed in his profile(s) by submitting one or any number of keywords which will then retrieve all information on any given subject.

Selective Dissemination of Information at Roswell Park has been operated for approximately 20 staff members

during the last two years, also serving five persons not directly associated with the Institute, located considerable distances from Buffalo. The latter group has proved that immediate contact with the program co-ordinator is not necessary. There are 55 profiles in the system at present, and in one instance all of the profiles for one subscriber were written employing a technique which eliminated the need for a personal interview.

As of March 30, 1966, 13,645 abstracts were sent to participants for which replies had been received. (Fig. 3). There were 70% designated to be of interest, including 12% noting document requests, 55% in which the abstract was deemed sufficient, and only 3% in which the paper had been seen before the abstract card arrived from the SDI Center. Notifications of absolutely no interest to the subscriber represented 15%. As of March 30, 1967, the interest level had risen to approximately 78%.

#### SUMMARY

Selective Dissemination of Information (SDI), a mechanized system using an electronic computer, is being employed to retrieve and present medical and scientific literature in capsule form to clinicians and researchers at Roswell Park Memorial Institute. Information is selected according to the expressed interest of each subscriber, thus enabling him to keep up with the latest advances in his field on a daily basis with a minimal amount of time spent. Statistics are given reflecting the effectiveness of the system.

# SUBSCRIBER PROFILE

LOCATION NO. 0 0 0 5 7 BR.OFF. OR DEPT.NO. 0 0 5 7 EMPLOYEE NO. 0 0 0 0 0 3 PROFILE NO. 1 1

TYPE ENTRY (MARK ONE)

CREATE PROFILE

☒

PURGE PROFILE

☐

MODIFY PROFILE

☐

IF LOCATION, DEPT. AND EMPLOYEE NO. ARE TO BE CHANGED, SEE PAGE 2.

COMPLETE ALL OF ABOVE

HEADER INFORMATION

☐

NAME DR. SIGMOND NADLER

LOCATION NAME HEALTH RESEARCH

Include Hit Level

SECURITY

A	B	C	D	E

LEVEL CHANGE ONLY

☐

MARK HIT LEVEL

HIT LEVEL

0	4
---	---

INTEREST

KEYWORDS

(Type or Print)

Type of Action	Word	Type	Weight	
				CANCER
				SURGERY
				CARCINOMA
			2	BREAST
				TUMOR
			2	PROGNOSIS
			2	SURVIVAL
			3	RADICAL MASTECTOMY
			2	BLADDER
	%		2	CYSTECTOMY
			2	REGIONAL MASTECTOMY
			2	REGIONAL PERFUSION

Type of Action	Word	Type	Weight	
			2	PERFUSION
			2	REGIONAL INFUSION
			2	ADJUVANT
			2	ENDOMETRIUM
			1	RESECTION
	%		2	METASTASIS
			1	MORBIDITY
			1	MORTALITY
			1	SURGICAL
	%		2	INFUSION

Maximum Words Per Profile - 60

Maximum Characters Per Word - 38

Use Additional Pages If Necessary

75569c

NAME	LOCATION	DC#	HIT LEVEL	PROFILE	ABSTRACT NO
DR. GEORGE E. MOORE	00033		04	BJC	+5 6532
MATCHED WORDS					
BUYLAND E. LONDON THE INDUCTION OF CHROMOSOME ABERRATIONS IN Vicia faba ROOT MERISTEMS BY N-HYDROXYURETHANE AND RELATED COMPOUNDS. BRITISH JOURNAL OF CANCER 12/65 19 878-882 N-HYDROXYURETHANE, BUT NOT URETHANE, CAUSES CHROMO- SOME ABERRATIONS IN ROOT TIPS OF Vicia faba. N-HYDRO- XYURETHANE AND URETHANE ARE ALMOST EQUAL IN CAUSING MANY EFFECTS IN MAMMALS, THE DIFFERENCE IS PROBABLY DUE TO THE PLANT TISSUE BEING UNABLE TO OXIDISE URETHANE TO THE BIOL- OGICALLY ACTIVE N-HYDROXYDERIVATIVE. RELATED COMPOUNDS SUCH AS THE ALKYL HYDROXYCARBAMATES, BUT NOT THE CORRES- PONDING ALKYL CARBAMATES, OXALOHYDROXAMIC ACID, HYDROXYUREA, DIHYDROXYUREA, HYDROXYLAMINE, N-METHYLHYDROXYLAMINE AND HYDRAZINE ALSO INDUCE SPECIFIC CHROMOSOME ABNORMALITIES. ENTIRE-ABSTRACT					
HYDROXYUREA					
INSTRUCTIONS I Read the Abstract II Push QUI the Appropriate Port-A-Punch Box with a sharp pencil III If you care to comment push out the comment box and write your comments on this card IV Return this card to SDI					
DR. GEORGE E. MOORE 00033 0033 G.I.N. 1763646					
BJC +5 6532000001 3 763646					
Of Direct Interest Document Requested Abstract is Sufficient Have Seen Before Of Passing Interest Only Of No Interest					
Comments, Address Or Minor Profile Changes Specify: (1) I for interest or 0 for none EXAMPLE I 0 0 0					

# SDI / RPMI TOTAL STATISTICS

	PERIOD I	PERIOD II	TOTAL
TOTAL RESPONSE CARDS RECEIVED	6686	6959	13,645
DOCUMENT REQUESTED	861	756	1617
ABSTRACT SUFFICIENT	3178	4406	7584
HAVE SEEN BEFORE	290	162	452
PASSING INTEREST ONLY	1092	904	1996
NO INTEREST	1265	731	1996

PERIOD I = APRIL 1, 1965 TO OCT. 17, 1965  
 PERIOD II = OCT. 18, 1965 TO MARCH 30, 1966



## THE ROLE OF SEARCHING SERVICES IN AN ACQUISITIONS PROGRAM\*

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A user presents his point of view of literature searching through the major searching services in the overall program of acquisitions for the engineering staff of the Air Force Aero Propulsion Laboratory. These major searching services include the Defense Documentation Center (DDC), the National Aeronautics and Space Administration (NASA), the Science Information Exchange (SIE), and the National Referral Center (NRC). Procedures have been established within the laboratory for utilizing these searching services. These procedures include writing and submitting the requests for retrospective literature searches and interest profiles for current-awareness services as well as the subsequent acquisition of documents and information cited in the returns. The relative value of the returns from these searching services is described; the value of a search return is determined by its completeness, response time, format, accuracy, and availability of cited information.

### Introduction

The growing need to be informed and the increased volume of publications have made the task of locating literature pertinent to any one subject more and more difficult. Engineering personnel in the scientific and technological disciplines often identify and acquire their own needed technical information.

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\* The program described in this paper was established under U. S. Air Force Contract AF33(615)-2993 to satisfy the requirement in Air Force Regulation 80-29 for the transfer of information through a Scientific and Technical Information (STINFO) organization. Publication of this paper does not constitute Air Force approval of the findings or conclusions stated therein. The paper is published only for the exchange and stimulation of ideas.

† Presently affiliated with the Columbus Laboratories of the Battelle Memorial Institute, Columbus, Ohio.

This situation is particularly true if needed information is available only in nonbook form.

The Air Force Aero Propulsion Laboratory (AFAPL) at Wright-Patterson Air Force Base, Ohio, as one user, has tried a different approach to satisfy this growing need: namely, the establishment of a Scientific and Technical Information (STINFO) Office. This office has the task of identifying and acquiring the technical information required to support the mission of the laboratory. Three separate, yet closely related, procedures fulfill this task: literature searching, interest profiles, and document acquisition. Only engineering personnel of the laboratory can place a request to initiate these procedures. The STINFO staff then formalizes the request, processes all the necessary paperwork, and maintains the response files. At no point in these procedures does the STINFO Office evaluate the technical content of a response for the engineering staff.

### Literature Searching

Engineering personnel at AFAPL initiate a literature search by presenting a written description of a subject of interest to STINFO personnel and then discussing the subject in detail. The purpose of this discussion is to develop a statement expressing the search subject clearly and in a manner adaptable to machine searching. This discussion often results in adding limiting parameters in order to increase the accuracy of the search returns. The final form of the literature-search request is a concisely worded paragraph detailing the subject and occasionally is supplemented with keywords and phrases.

The request is sent to the searching services of the Defense Documentation Center (DDC), the National Aeronautics and Space Administration (NASA), the Science

Information Exchange (SIE), and the National Rererral Center (NRC) of the Library of Congress on the standard forms supplied by the centers or on STINFO Office form letters. These four main services supply references to documents, current projects, and organizations having competence in the subject areas. Other specialized searching services, societies, or companies are used as the subject requires.

The returns from the four searching services named are described on the basis of completeness, response time, format, accuracy, and availability of cited information. Incompatibilities between the mission of the Air Force Aero Propulsion Laboratory and the scope of the searching services or between the search request and the type of system queried are identified in order to establish any user bias.

#### Defense Documentation Center (DDC)

The DDC Demand Bibliography contains all the information available on the report literature included in the *Technical Abstract Bulletin* (TAB): i.e., complete bibliographic citation and an abstract. This bibliography arrives within two to four weeks after the initial request and is a computer printout on 7 x 11-inch pages. Each page usually contains only one citation although on occasion two items will be included. The citations are not arranged sequentially by accession number throughout the bibliography. Blank pages often are included and increase the bulk unnecessarily. All documents are cited in one bibliography that then is assigned the highest security classification applicable.

An average of 15 to 25 percent of the reports cited in the DDC Demand Bibliography is requested; this percentage is not higher because DDC collects all Department of Defense (DoD)-sponsored literature regardless of the subject. The

reports cited are available from DDC; thus, processing the document orders is strictly routine.

Another type of search from DDC, the Research and Technology Resume, is based on the DD Form 1498, which is a periodic report on each DoD contract by the project engineer. This searching service was new in the first quarter of 1966 and was extremely slow during the first months of operation. Minimum response time was four to six weeks, and some returns did not arrive for several months. The service had improved by the end of 1966, and most requests were completed within four weeks.

Twenty-six data elements appear on the DD Form 1498; all or any desired combination of these elements are supplied on demand. A duplicate of the form, if requested, is supplied on 11 x 14-inch paper. By specifying the DF05 format, the paper size will be reduced to 7 x 11 inches. The acquisition of further information about projects referenced in the DDC Research and Technology Resume necessitates contacting project personnel.

#### National Aeronautics and Space Administration (NASA)

The NASA Literature Search is based on the report literature abstracted in its *Scientific and Technical Aerospace Reports* (STAR) and on the published literature in the *International Aerospace Abstracts* (IAA) and supplies complete bibliographic information, but no abstract. The search returns arrive within two to four weeks after the initial request in the form of a computer printout on a standard 8-1/2 x 11-inch format. The bibliography is not very bulky since abstracts are omitted. Usually three or four items are cited on each page. Each search is divided into three sections according to classification of the documents cited: unclassified, limited, and classified. Citations are arranged sequentially by accession number within each section.

An average of 25 to 35 percent of the reports cited in the NASA Literature Search is requested; this high percentage is because NASA collects all the literature within its subject interests regardless of the sponsor. These subject interests are closely allied to the efforts of the AFAPL engineering personnel. The reports cited are not all available from NASA and thus require various methods of acquisition; the resulting, rather complex problems are discussed later.

#### Science Information Exchange (SIE)

The SIE is a registry of current, applied and basic research projects with the emphasis on the latter. The registry is mostly of non-DoD efforts although recent provisions have been made for the release of unclassified DoD projects to the SIE from DDC. Negotiations also are underway with NASA for its unclassified project information. Title, principal investigator and his address, an abstract of proposed research, and contract or grant number are listed for each project on the search return; however, as a rule, one or more of these items is not complete. The SIE answers within one to three weeks and will notify the requestor if a delay occurs in processing. The responses are not standardized; i.e., the returns are reproductions of the forms in the SIE files.

Less than 5 percent of all returns from the SIE results in requests. However, a basic incompatibility exists between the AFAPL mission and the applied and basic research projects registered at the SIE. The acquisition of further information about projects referenced in the SIE return necessitates contacting project personnel, a complicated procedure in many instances. Answers to such requests for further information are always slow and may require an average of four to six weeks. In addition, further information is not available in many cases.



### National Referral Center (NRC)

The NRC is a registry of potential sources of information; these sources may be industrial concerns, academic centers, societies, libraries, information centers, or abstracting journals. The information provided includes title, address, contact, and availability and/or description of the service; not all this information is supplied for each service. The NRC responds either by letter or by telephone per requestor instructions. A letter return may require from four to six weeks; a telephone response, within a week to ten days. The letter replies are the standard business type and are easy to handle.

No meaningful figures can be given for the NRC search returns since its service basically is incompatible with the request from AFAPL engineering personnel. The interests of most of the organizations or information sources registered at the NRC are quite broad. However, a query from the AFAPL usually is very specific. Due to the marked differences between the specificity of the question and the system queried, the NRC returns are nearly useless. Follow-up on the referrals is unreliable and usually fruitless.

### Interest Profiles

The current-awareness services of NASA and the Foreign Technology Division (FTD) complement the retrospective literature-searching program. The AFAPL engineering personnel have established interest profiles with these organizations in order to participate in their services. The STINFO Office has assisted in preparing the profiles; this assistance is similar to that offered for retrospective literature-search requests.

The NASA-SD1 Program has proved its value to the laboratory. The AFAPL has 21 participants in the program. Most of these participants are satisfied



with the performance of the program; 13 of the 21 have a notice-to-relevant-notice ratio greater than 50 percent. Most participants also are ordering between 10 and 25 percent of the announced documents. These figures are based on weekly notices.

Sufficient information on the FTD program is not available to discuss its value.

### Document Acquisition

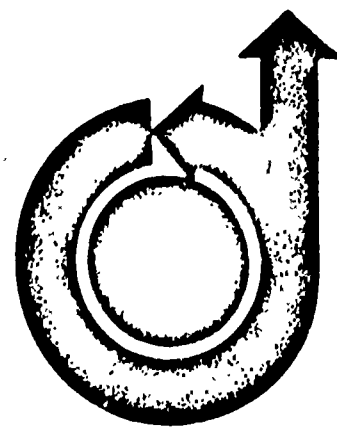
Requests to acquire a specific publication may result from a literature-search return, a current-awareness announcement, or efforts among engineering personnel to keep current with a particular subject field. Sixty-five to 70 percent of such requests can be supplied from the report collections of DDC, NASA, the Atomic Energy Commission (AEC), and/or the report, book, and journal collections of local libraries. Another 20 percent of the requests is obtained through interlibrary loan. Most loans are from the American Institute of Aeronautics and Astronautics, Inc. (AIAA) or a government depository library; a few, from university and company libraries. Five percent of the residual requests is purchased from the Clearinghouse for Federal Scientific and Technical Information (CFSTI) or from the Government Printing Office (GPO). The final 10 percent is requested from the originating organization or the author. All efforts are made to acquire the document from an information organization, rather than from the organization or author issuing the document.

The time and effort required to service a request for a specific document vary depending on the source. Documents available from DDC, NASA, and AEC usually arrive within two to three weeks if processed correctly on the standard order forms from each source. By borrowing reports, books, and journals from local libraries, requests can be filled within 24 hours to a week. Materials

usually can be obtained through interlibrary loan within an average of four to six weeks, but may be as long as several months. Considerable effort is expended in requesting and the subsequent handling of these loan materials. The acquisition of documents from the CFSTI and GPO necessitates the typing of special orders; materials arrive from CFSTI in a minimum of four to six weeks, but from GPO in a maximum of four weeks. Documents that cannot be obtained from any source other than the originator usually will take several months to acquire, if available at all. These documents must be requested by individual letter and often will require considerable follow-up correspondence. STINFO Office personnel, not engineering personnel, expend the necessary effort to acquire requested documents from the point of the request until the document arrives on the requestor's desk.

#### Summary

The DDC and NASA information services are both indispensable to the Air Force Aero Propulsion Laboratory for providing literature-searching services and for supplying documents. The other centers supplement the returns from DDC and NASA.



## MULTICHANNEL RADIOMETER MEASUREMENT OF SOLAR IRRADIANCE

by

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EXAMPLE 2

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[PREPRINTS. v.p., v.p., 1965,  
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## ABSTRACTING AND INDEXING, AN EXPERIMENTAL COURSE

by Dr. Isaac D. Welt

Isaac D. Welt Ph.D., Professor and Deputy Director, Scientific and Technical Information Systems, Center for Technology and Administration, The American University, Washington, D.C. Presented before the Documentation Section, Special Library Association, New York Meeting, May 31, 1967.

Education for special librarianship has been a perennial subject for discussion for at least several decades. A great deal of controversy and confusion has accompanied the "search" for newer and better curricula and courses, as is evidenced from the extensive literature which has accumulated. With the last ten years, the impact of documentation or information science has been particularly marked. Numerous special librarians are now involved in documentation activities for which they were not formally trained in their years of education in the library schools of this country. As a result, most progressive educators feel that some degree of academic training is a "must" if the special librarian of the future is to play his proper and rightful role in the acquisition, processing and dissemination of the results of scholarly endeavor which make up the raw materials of most special libraries and information centers. What then is to be taught, by whom and in what context?

It is obvious, at least to me, that a good deal of the source of the confusion can be ascribed to the documentalists themselves. They are still busy defining "documentation" and "information science". Many of us still confuse "document retrieval" with "information retrieval", to cite an example. Accordingly, they cannot delineate their educational goals with any degree of precision or with the assurance that other practitioners will agree with them. Hence, the bewilderment of educators in the field of special librarianship is not entirely surprising.

My own feeling is that one cannot, even with the best of intentions, divorce his own educational background and qualifications from his definition of

documentation or from his list of educational priorities. In other words, to a trained mathematician, information science (or documentation insofar as I am concerned) is based on mathematical foundations and a heavy dose of the "queen of the sciences" is therefore recommended to any special librarian who wants to qualify as an information scientist. Similarly, the linguists stress their specialty, the philosophers theirs and the computer scientists (the first time in the history of science that an entire discipline is being built around a machine) feel that each and every fledgeling documentalist must be an expert both in "hardware" and its accompanying "software".

In addition, the struggle between the librarian and the documentalist over which discipline is more fundamental still goes on. This is well illustrated by two quotations from a recent issue of *Special Libraries*. Swank, a library school dean, states that "I do not believe that information science is a field separate from librarianship. It is rather a fresh insight into the nature of librarianship," and "Like documentation, it is an extension of librarianship." (1). Taylor, an advocate of the primacy of information science, states his case as follows: "it is important to remember that the library is but one application of information science" (2).

An area in which some degree of agreement is possible involves that of data processing and its application in the library. Special librarians have been quick to realize that many of the tedious sub-professional routines can be automated by means of readily-available computerized techniques. (3). Accordingly, some instruction in ADP seems destined for early inclusion within the slowly-changing curriculum of the library school. However, this is not the most important contribution which this new discipline can make, and the computer, surprisingly enough, need not be directly involved.

Disregarding, for a moment, the necessity for an all-encompassing "philosophy" of librarianship, as advocated by Shera (4), among others, the importance of teaching special librarians the working philosophy of "user orientation" cannot

be overestimated. As Zackert states: "user-satisfaction is the major motivating force in special library planning" (5). In practical terms, this can most easily be achieved by the active participation of the librarian in the communication process whereby the user is provided with the intellectual product of the producer, be it a document or the "raw" information itself. As Taylor says: "librarians, by consciously or unconsciously limiting themselves to one form only, the book, have excluded themselves from much of the dynamism affecting the formal process of communication of information." (2).

To a non-librarian, classification and its practical applications, such as subject cataloging, represent the most truly "professional" and intellectually-demanding aspects of the librarian's job. However, with the possible exception of the UDC, which represents a classification of knowledge rather than of documents, most of these schemes are too superficial to meet the needs of the scholarly community, especially of scientists and engineers. As a result, users have developed the alphabetico-specific index to meet their information retrieval needs. Comprehensive abstracting services have also been inaugurated with the aim of reducing the verbosity of the average scholarly communication without losing its message. It is no exaggeration to state that the problems of abstracting and indexing constitute the main subject matter of courses in documentation. Those few of us who are actively engaged in teaching such courses, either within the library school or as an integral part of other curricular offerings, are well-aware of these difficulties. Yet such courses must become part of the library school curriculum, available, at least as electives, to students contemplating a career in special librarianship. As an active collaborator with the user in the intellectually-exciting world of abstracting and indexing, the librarian would quickly become user-oriented and would be enabled to bridge the communication gap between the scholar or scientist as user and as producer. I am glad to note that Rees, a respected library school teacher and productive research worker agrees (6), although I regret his designation of these important intellectual tasks as "technical processes" at about the same level in his



classification as "interlibrary loans", a process which is readily amenable to automation,

The training of special librarians as abstractors and indexers would go far to relieve the severe shortage of these specialists which is particularly acute in scientific and technical areas. The higher salary scales available to such individuals might also tend to raise the economic status of the entire profession. Furthermore, since many librarians may find themselves, sooner or later, working within the administrative confines of the "information center", it is to their advantage to be exposed, at least, to as many of the functions of such centers during their academic years. Finally, and most important, such skills will enable the librarian to survive "the age of automation" as true professionals doing professional work. For, at least to the best of my knowledge, automatic abstracting and indexing are still as far away as ever. The use of the computer in performing intellectual tasks of this magnitude and complexity is still in the dim and very distant future. When and if it should come to pass, however, the machine will still have to be taught to simulate the intricacies of human thought, as represented by the decision-making processes of the skilled abstractor and indexer at work on a difficult scientific paper.

The problem of subject-matter competence comes up whenever a discussion of this sort arises. Admittedly, most library school students do not major in science and would have considerable difficulty in attempting the analysis of the complex scientific and technical literature. A high degree of interest and motivation may overcome these initial disadvantages, and on-the-job training has been quite successful in removing scholastic deficiencies. Many highly skilled indexers and abstractors working within the numerous information centers maintained by the chemical industry, for example, came from a liberal arts educational background.

Furthermore, it is believed that there exists a common "modus operandi" insofar as the basic skills of abstracting and indexing are concerned. There should

then be a "crossover" of such skills from one field to another. In other words, if a librarian who has majored in history, learns to abstract and index the literature of historical research, it should then be easier for him to "pick up" the subject matter of Chemistry or Biology on the job and do a creditable job in those areas as well. These contentions are largely speculative. We do not have sufficient information concerning the nature of the abstracting and indexing process as practiced by skilled professionals and hence, cannot easily develop the most promising or efficient training procedures.

The author has had considerable experience in teaching such courses to selected students, first at the Drexel Institute of Technology Graduate School of Library Science where most of the students, at least in the courses in Information Science, had a scientific undergraduate background. More recently, similar courses have been developed and taught to students at the Center for Technology and Administration of the American University as part of the curriculum leading to the M.S. and Ph.D. degrees in Public Administration: Technology of Management, in non-library environment.

It was with great anticipation, therefore, that I undertook to teach a similar course to library school students pursuing their studies within the Department of Library Services of the University of Hawaii, in Honolulu, in the summer of 1966. The invitation to develop and to teach such a course was kindly extended to me by Dr. Ralph R. Shaw, who had recently developed the library school in Hawaii. This was to be an intensive, three-week course of thirty lectures, each consisting of some seventy-five minutes of class time, twice a day, five times a week. It was to have a practical bent, involving assignments which stressed actual abstracting and indexing practice, and was available as an elective to all library school students.

The class consisted of fourteen registered students and two auditors, their educational backgrounds ranging from Nuclear Engineering to Fine Arts. In spite of this great diversity in preparation, a suitable course was constructed and taught. Fortunately, some but not all of the students had previously taken a course in



documentation taught by Dr. Shaw. However, as can be seen from the course outline which follows, an integrated approach to communication techniques and practices among scholars was deemed to be a pre-requisite so that students could understand what part of the total spectrum of communication practices was occupied by abstracts and indexes. No textbook was found suitable. Instead, students were advised to browse freely among the books in the Z 39 and other sections of the bookstacks. Fortunately, the Library of the University of Hawaii had an excellent collection of both books and periodicals in documentation, information science and "conventional" library science, no mean feat considering its location.

The course outline which follows is unedited and represents a somewhat illogical sequence of topics. It does however, constitute a cross-section of the notes which the students took during the lectures. It was considered exceedingly important to obtain adequate student "feedback" so that more user-orientation could be built into succeeding curricular offerings in this important area.

Course Outline:- (30 lectures)

1. Introduction. Books and documents and their information content. Organization by classification, cataloging and shelf-listing. Abstracting and indexing as a means of organizing knowledge. Special librarianship and documentation. National libraries, academic libraries and industrial libraries. The information center and its functions.

2. Societies and the Information "Explosion". Organizations of documentalists and information scientists and their publications. "Keeping-up" with the literature in the field. Librarians, scientists, engineers, logicians, mathematicians, linguists, etc. Their contributions.

3. Communication. Written, verbal, pictorial. Audio-visuals. Technical writing, editing and publishing. Automation of publication techniques and their "fringe-benefits" to documentation and special librarianship. Reprography and computerized photocomposition. Role of government, scientific societies and commercial groups in the dissemination process.

4. Primary and Secondary Publications. Papers, monographs, dissertations and theses, textbooks, reviews, abstracts, indexes to abstracts, indexes to original papers, book indexes, handbooks and "critical" tables. Specialized information services and their products. The Systems Approach to literature control. Planning for the future.

5. Information Theory, and Elementary Introduction. Analogy between scientific and technical communication and communications electronics. Medium and message. "Noise." Selectivity and sensitivity problems. Channels and Shannon-Weaver.

6. Linguistics, an Elementary Introduction. The natural imprecision of language. Translation problems, not only between foreign languages but among varied disciplinary jargons. Chemistry as a specialized international language. "Mechanical translation".

7. The Information Spectrum. The laboratory notebook or protocol. The progress report and final report. Technical reports and the literature. Patents and their special problems. The "scholarly" paper. The bibliography. Journal abbreviations and the "coden". Transliteration of citations. The newer types (Communications, Letters to the Editor, Proceedings, Notes, etc.). Errata. Computerization and other means of automation.

8. Annotations, Indicative and Informative Abstracts. Varying information content, Title and sub-title. Hierarchical and non-hierarchical classification of abstracts. Author abstracts and "slanting". Selective abstracting for maximum user-orientation. "Target groups" of users in information centers. The major services. Discipline-oriented and mission-oriented abstracts. How to abstract.

9. Current Awareness and Retrospective Search. The title services. Search strategies in the scientific and scholarly literature. The "extract". The author's summary. Continuation of How to abstract.

10. The Ideal Paper. Historical introduction, experimental design, apparatus and equipment, methodology, results, discussion, conclusion and summary. Or, "Why did I do it?" "How did I intend to do it?" "What happened when I did it?" "Why

did it happen?" "What have others done or concluded?" "What happened and why in the light of the experience of others as quoted in the literature?" Continuation of How to abstract.

11. The State of the Abstracting Art. Special problems in the social sciences, humanities and fine arts, based on student "feedback." Co-operative abstracting activities. Continuation of How to abstract.

12. Journal Coverage. The "Bradford-Vickery" Law of Scattering. The "prestige" order of journals. Translated journals and their shortcomings. The language problem in covering the foreign literature. The training of abstractors.

13. Cost Factors. A detailed "case-history" of a medium-sized industrial abstracting services in the chemical industry. Typing and proof-reading, editing, corrections, filing, classification, printing, binding and mailing. Conclusion of How to abstract.

14. The Future of the Published Paper. The "invisible" college and information exchange groups. The role of the scientific meeting, workshop, symposium, colloquium, etc. The "off-the-record" conference (i.e. Gordon Conferences). Pre-prints and reprints.

15. The Computer as a Tool. Introduction to the use of computers in documentation. Boolean logic and search strategy in a very elementary form. The game of "twenty questions."

16. Traditional Classification Systems. The Dewey Decimal and Library of Congress Systems. Advantages and disadvantages. Classification in Science (Linnean). Hierarchical and non-hierarchical systems. Relation to shelf-listing. The Universal Decimal Classification System with illustrative examples.

17. Newer Classification Systems. Colon classification and faceted classification with illustrative examples. The multi-dimensional approach. Books and documents. When is a book, a book and not a periodical? Document retrieval and information retrieval.

18. Input and Output to an Information System. Costs. User-oriented indexing systems. Indexing-in-depth, what does it mean? Recall and relevance.

19. Conventional Indexing. Indexing by librarians and by scientists. "Professional indexers" (e.g. Chemical Abstracts Service), their recruitment and training. "Decline" of "conventional" indexing.

20. Indexing-out-of-Context - Author's Vocabulary. The "uniterm" and its history. Direct and inverted file systems. "Posting" and "addresses". Co-ordinate indexing. The mechanization by "peek-a-boo" techniques. Hardware considerations. Importance of subject matter to be indexed. Should not be used in fields where vocabulary is unstandardized and confused, such as the social sciences. Useful in Chemistry, however.

21. Pre-coordination. The problem of "false drops". Examples such as "shock treatment", "treatment shock" and "treatment of shock". How to index.

22. Indexing-out-of-Context - Artificial Restoration of Context. Syntactical problems. "English is a work-order language." Correlative indexing. Links and roles, their advantages and disadvantages. Continuation of How to index.

23. Indexing-in-Context - The Title Index. The KWIC and KWOC indexes, WADEX and other modifications. Inclusion of UDC in indexes produced by computer. Augmented KWIC index (e.g. BASIC). Continuation of How to index.

24. The Thesaurus. Descriptors and the standardized vocabulary. Scope-notes and definitions. The subject authority list. Continuation of How to index.

25. Thesaurus Construction and Use. MESH, EJC and examples of other thesauri. Thesaurus-building by "committee". Continuation of How to index.

26. Computers and Thesauri. Compatibility problems. Mechanization of standard vocabularies. Problems in the social sciences and humanities. Coding techniques. Conclusion of How to index.

27. The Citation Index. Development of the citation index and its use. Examples. Bibliographic "coupling" and networks of papers.

28. The Index-Abstract Approach. The "miniabstract" in the biomedical field. "Case study" of the Cardiovascular Literature Project. Advantages and disadvantages. Production techniques by "step-and-repeat" camera. The first mechanization of the Index Medicus.

29. Selective Dissemination of Documents and Information. Use of computers in providing a truly "customized" service. User "profiles" and their updating. Importance of efficient user "feedback" to the success of the system. "on-line" computerized systems and their costs. Project MAC and the INTREX approach.

30. Research in Indexing. Work frequencies and the "concordance" approach. Computational linguistics and statistical methods. The psychological approach concerning indexer and user behavior. The Aslib-Cranfield experiment. Summary and conclusions.

### 31. FINAL EXAMINATION.

As can easily be seen from careful review of the foregoing, what started as a course in abstracting and indexing actually became a series of lectures on the problems of scientific and scholarly communication in this computer age. This only serves to emphasize the central role played by abstracts and indexes in this area.

The homework assignments accompanying the course of lectures were threefold:-

1. Each student was assigned 6 carefully selected (selected by former students at Drexel and American University as a result of critical comments) papers and asked to prepare a critical abstract of each. The assigned papers were the following:-

(a). Herner S. "Subject Slanting in Scientific Abstracting Publications." Iter. Conf. Sci. Inform. Area II, 1960, 407-427.

(b). Crane E.J. and C.C. Langham. "On-the-job-Training at Chemical Abstracts Service." J. Chem. Documentation, 1962, 2: 199-204.

(c). Brodsky G.L. "Abstracting Control." in Technical Information Center Administration, Arthur W. Elias, ed., 1964, 1: 57-71.

(d). Mohlman J.W. "Costs of an Abstracting Program." J. Chem. Documentation 1961, 1: 64-67.

(e). Markus J. "State of the Art of Published Indexes." Amer. Documentation, 1962, 13: 15-30.

(f). Fischer M. "The KWIC Index Concept: A Retrospective View," Amer. Documentation, 1966, 17: 59-70.



2. Each student was required to scan the journal literature in their field of undergraduate specialization and to select, in consultation with the instructor, a journal containing 6 scholarly articles suitable for subsequent abstracting and indexing. The following journals were chosen (the field is given in parentheses):-

- |   |   |
|---|---|
| (a). American Journal of Psychiatry         | (Psychiatry)                            |
| (b). Art Bulletin                           | (History of Art and Art Criticism)      |
| (c). Bulletin of the Medical Library Assoc. | (Medical librarianship)                 |
| (d). Economic Botany                        | (Agricultural Economics)                |
| (e). Hispania                               | (Spanish Literary Criticism, Bilingual) |
| (f). Foreign Affairs                        | (International Relations)               |
| (g). Harvard Business Review                | (Business Administration)               |
| (h). Monatshefte                            | (German Literary Criticism, Bilingual)  |
| (i). Nucleonics                             | (Nuclear Physics, Instrumentation)      |
| (j). Political Science Quarterly            | (Political Science)                     |
| (k). Japanese Sociological Review           | (Sociology, in Japanese)                |
| (l). Journal of Experimental Zoology        | (Zoology)                               |
| (m). Libri                                  | (Library Science)                       |
| (n). Special Libraries                      | (Library Science)                       |
| (o). Journal of Asian Studies               | (General scholarly journal)             |

The above list amply illustrates the diversity of subject matter and even language selected by the students.

After selection of articles, each student was required to write an annotation, an indicative abstract and an informative abstract for each article. After the work was examined by the instructor, it was returned to the students for selection of keywords from both titles of the selected papers and from their corresponding informative abstracts. Upon comparison of the two lists, the students were able to conclude, as least to some degree, whether their abstracting efforts were of sufficient retrieval value without the abstracts. Most students, I might



add, were singularly unimpressed with the supposed advantages of title keywords over abstract keywords as a means for locating pertinent documents.

In the absence of a suitable text, the following "how to" papers were found helpful in guiding the students in their abstracting and indexing endeavors and were distributed to them:-

(a). Weil B.H., I. Zarembor and H. Owen. "Technical-Abstracting Fundamentals. I. Introduction." J. Chem. Documentation, 1963, 3: 86-89.

(b). Weil B.H., I. Zarembor and H. Owen. "Technical-Abstracting Fundamentals. II, Writing Principles and Practices." J. Chem. Documentation, 1963, 3: 125-132.

(c). Weil B.H., H. Owen and I. Zarembor. "Technical-Abstracting Fundamentals. III. Publishing Abstracts in Primary Journals." J. Chem. Documentation, 1963, 3: 132-136.

(d). Knable J.P. II. "An Experiment Comparing Key Words Found in Indexes and Abstracts Prepared by Humans with Those in Titles." Amer. Documentation, 1965, 16: 123-124.

The final examination was scheduled for two hours. It is given below:-

1. Define the following terms briefly:-

- (a). scope notes (b). target group. (c). permuted title index
- (d). UDC (e). co-ordinate indexing (f). auto-abstracts (g). summary
- (h). technical report

2. Define and discuss the varying information content of the (a). title, (b). annotation, (c). indicative abstract and (d). informative abstract, giving examples from your own abstracting assignments wherever indicated.

It is gratifying to be able to report that the students did exceedingly well on this examination as well as in the assignments which they submitted. In addition to all of this, one of my students from Japan presented me with a scholarly "state-of-the-art" review on the situation in his native country with respect to the

development of documentation and computer applications to storage and retrieval problems.

The author felt that the course was a success and should be repeated, with suitable modifications, in other library schools. Unfortunately, although invited to repeat the course at the University of Hawaii during the summer session of 1967, other and previous commitments make this impossible.

In conclusion, I would like to extend my sincerest appreciation to Dr. Ralph Shaw for making this experiment, and hence, this paper, possible. Dr. Robert Stevens, Director of the Sinclair Library and Acting Director of the Department of Library Services was most cooperative and hospitable. I am indebted to Harold Sharp and George Bonn of the Faculty and Library staff for numerous kindnesses. Most of all, however, I am beholden to my hard-working and long-suffering students, whose diversity in race, religion and hue of skin represent the "one world" of tomorrow and who added to the delights of spending several weeks in "the loveliest fleet of Islands that lies anchored in any ocean."

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